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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,637	05/02/2006	Philippe Desbois	12810-00247-US1	3877

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EXAMINER	
ARNBERG, MEGAN C	

ART UNIT	PAPER NUMBER
1796	

MAIL DATE	DELIVERY MODE
04/01/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,637	DESBOIS ET AL.	
	Examiner	Art Unit	
	MEGAN ARNBERG	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/02/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4-7, 10, 12, 14, 16, 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Braune et al. ("An Efficient Method for Controlled Propylene Oxide Polymerization: The Significance of Bimetallic Activation in Aluminum Lewis Acids").

Regarding claims 1, 2, 4, 10, and 12: Braune et al. teaches a process for preparing homopolymers of oxiranes/PO (propylene oxide) polymerization (title) comprising carrying out the polymerization in the presence of a quaternary ammonium (page 65, 1st column, last 5 lines) of the formula NR_4-X (NEt_4Cl) where R is alkyl and X is halogen. Also present is a mononuclear organylaluminum compound [$Al(L)Cl_2$] (page 65, 1st column, last 4 lines) of the instant formula where one R radical is an arylalkyl and the other two are halogens.

Regarding claims 5, 14, and 16: Braune et al. teaches trimethylaluminum (page 64, second column, last paragraph), some of which would inherently remain in the composition.

Regarding claims 6, 17, 19, and 20: Braune et al. teaches the ratio of Lewis acid/quaternary ammonium to aluminate/organylaluminum compound is 1.5 (page 65 second column, end of first full paragraph and experiments 7 and 8).

Regarding claim 7: Braune et al. teaches adding the quaternary ammonium/NEt_4Cl first (see page 67, Experimental Section).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 13, 15 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braune et al. (“An Efficient Method for Controlled Propylene Oxide

Polymerization: The Significance of Bimetallic Activation in Aluminum Lewis Acids") as applied to claim 1 above and in view of Yu (U.S. Pat. 5,010,139).

Regarding claim 3: Braune et al. teaches the basic claimed composition as set forth above. Not disclosed is the copolymer with comonomers selected from styrene, α-methylstyrene, butadiene, isoprene or mixtures of these. However, Yu teaches a copolymer of ethylene oxide with a comonomer of a styrene (col. 5 line 67-col. 6 line 7). Braune et al. and Yu are combinable because they are both concerned with the same field of endeavor, namely polymerization of oxiranes using an organoaluminum compound (col. 7 line 35). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the styrene monomer of Yu with the polymer of Braune et al. and would have been motivated to do so because adding a cyclic comonomer to ethylene oxide significantly improves the antistatic performance of the polymer, as evidenced by Yu (col. 4 lines 16-26).

Regarding claim 13: Braune et al. teaches the quaternary ammonium (page 65, 1st column, last 5 lines) of the formula NR_4-X (NEt_4Cl) where R is alkyl and X is halogen.

Regarding claim 15: Braune et al. teaches trimethylaluminum (page 64, second column, last paragraph), some of which would inherently remain in the composition.

Regarding claim 18: Braune et al. teaches the ratio of Lewis acid/quaternary ammonium to aluminate/organylaluminum compound is 1.5 (page 65 second column, end of first full paragraph and experiments 7 and 8).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braune et al. ("An Efficient Method for Controlled Propylene Oxide Polymerization: The Significance of Bimetallic Activation in Aluminum Lewis Acids") as applied to claim 1 above and in view of McGee et al. (US 2002/0010268).

Regarding claims 8 and 9: Braune et al. teaches the basic claimed process as set forth above. Not disclosed is a first polymerizing a comonomer and then polymerizing the polyoxirane while concomitant use of alkali metal compound is made. However, McGee et al. teaches first polymerizing a polyolefin/comonomer, and then polymerizing an oxirane containing monomer such as ethylene oxide or propylene oxide to form a block copolymer while using an alkali metal compound such as potassium hydroxide or sodium methoxide (para. 29). Braune et al. and McGee et al. are combinable because they are both concerned with the same field of endeavor, namely the process of making oxirane polymers. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the block copolymer reaction scheme of McGee et al. with the process of Braune et al. and would have been motivated to do so for such desirable properties as producing an olefin block copolymer with excellent adhesion and a much lower cost than previously used adhesion promoters, as evidenced by McGee et al. (para. 12).

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braune et al. ("An Efficient Method for Controlled Propylene Oxide Polymerization: The

Significance of Bimetallic Activation in Aluminum Lewis Acids") as applied to claims 1 and 2 above and in view of Yu (U.S. Pat. 5,010,139).

Regarding claim 11: Braune et al. teaches the basic claimed composition as set forth above. Not disclosed is the copolymer with comonomers selected from styrene, α-methylstyrene, butadiene, isoprene or mixtures of these. However, Yu teaches a copolymer of ethylene oxide with a comonomer of a styrene (col. 5 line 67-col. 6 line 7). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the styrene monomer of Yu with the polymer of Braune et al. and would have been motivated to do so because adding a cyclic comonomer to ethylene oxide significantly improves the antistatic performance of the polymer, as evidenced by Yu (col. 4 lines 16-26).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGAN ARNBERG whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. A./
Examiner, Art Unit 1796

/James J. Seidleck/
Supervisory Patent Examiner, Art Unit 1796